

WHAT IS CLAIMED:

1. A watercraft comprising:
a hull;
an engine; and
a propulsor, the propulsor comprising an impeller, a water intake, and a steering nozzle, the steering nozzle having an inlet and an exit, and an interior surface and an exterior surface, the steering nozzle further comprising at least one groove in the interior surface beginning near or at the exit and extending a distance along the interior surface toward the inlet.
2. The watercraft in claim 1, wherein the watercraft comprises two or more propulsors.
3. The watercraft in claim 1, wherein the steering nozzle comprises at least two grooves.
4. The watercraft in claim 1, wherein the groove has a surface area, the interior surface of the steering nozzle has a total interior surface area, and when the steering nozzle is sectioned at least about 75% of the groove area is located in any contiguous half of the total interior surface area of the steering nozzle.
5. The watercraft in claim 1, wherein the groove comprises at least two sides with a distinct angle between the two sides.
6. The watercraft in claim 4, wherein the groove comprises at least two sides with a distinct angle between the two sides.

7. A watercraft comprising:
a hull;
an engine; and
a propulsor, the propulsor comprising an impeller, a water intake, and a steering nozzle, the steering nozzle having an inlet and an exit, and an interior surface having an interior surface area and an exterior surface, the steering nozzle further comprising at least one groove in the interior surface beginning near or at the exit and extending a distance along the interior surface toward the inlet, the at least one groove having a groove area wherein when the steering nozzle is sectioned at least about 75% of the groove area is located in any contiguous half of the total interior surface area of the steering nozzle.
8. The watercraft in claim 7, wherein the watercraft comprises two or more propulsors.
9. The watercraft in claim 7, wherein the steering nozzle comprises at least two grooves.
10. The watercraft in claim 7, wherein the groove in the steering nozzle comprises at least two sides with a distinct angle between the two sides.
11. The watercraft in claim 7, wherein the groove in the steering nozzle has a length and the length of the groove is between from about $0.001r$ to about $1.5r$.
12. The watercraft in claim 11, wherein the groove in the steering nozzle has a width, and the width of the groove at its widest point is between from about $0.002c$ to about $0.4c$.

13. The watercraft in claim 12, wherein the steering nozzle comprises at least two grooves, the at least two grooves has a spacing between the at least two grooves, and the spacing between the at least two grooves is between from about $0.01w$ to about $3w$ at their nearest point.

14. A steering nozzle for a waterjet propulsion system comprising:

an inlet and an exit; an interior surface and an exterior surface; and at least one groove beginning at or near the exit and extending a distance along the interior surface toward the inlet.

15. The steering nozzle in claim 14, comprises at least two grooves.

16. The steering nozzle in claim 14, wherein the groove comprises at least two sides with a distinct angle between the two sides.

17. The steering nozzle in claim 14, wherein the groove has a length and the length of the groove is between from about $0.001r$ to about $1.5r$.

18. The steering nozzle in claim 17, wherein the groove has a width, and the width of the groove at its widest point is between from about $0.002c$ to about $0.4c$.

19. The steering nozzle in claim 18, wherein the steering nozzle comprises at least two grooves, and the spacing between the at least two grooves is between from about $0.01w$ to about $3w$ at their nearest point.

20. The steering nozzle in claim 19, comprising at least four grooves.